

CLAIMS

What is claimed is:

1. A method for web content filtering, between web transmission contacting nodes, executing the following steps to determine bypassing web information:

(1A) building web page filtering decision criteria, at least including keyword category, a relevant probability chart for every keyword, a blocking threshold, and a bypassing threshold, and a score deviation (SD);

(1B) getting web page from the web server;

(1C) looking for the next keyword;

(1D) determining whether the current word is a keyword, if yes, further proceed to the next step; if not, going to step (1H) and continue to check the information document;

(1E) re-computing score deviation between the highest score and the second higher score from each category based on the relevant probability chart;

(1F) determining whether the score deviation exceeds the blocking threshold, if yes, label the web page as a forbidden one; if not, proceed to the next step;

(1G) determining whether the score deviation is lower than the bypassing threshold, if yes, label the web page as a bypassing one; if not, proceed to the next step; and

(1H) reading next word from the web page and determining whether the end has been reached, if yes, label the web page as a bypassing one; if not, return to step (1D).

2. The method for web content filtering according to claim 1, wherein said bypassing threshold is a function depending on the times of keyword matching,

the web page filtering decision standard further includes a text classified category $C=\{c_1, c_2, \dots, c_{|C|}\}$ that users want to forbid against, the relevance probability chart is built based on the text classification and the score deviation is achieved by the following steps:

(2A) initializing score category S corresponding to every text category;

(2B) computing the score in each category based on the relevance probability chart:

$$\text{Score}(c_j | d_i) = \frac{P(c_j) \log(\prod_{k=1}^{d_i} P(w_{d_i, k} | c_j))}{P(d_i)}$$

(2C) choosing two most significant scores; and

(2D) setting difference of them as the score deviation (SD).

3. The method for web content filtering according to claim 1, wherein said step (1A) further includes step (3A) building an interval threshold and initializing an interval value, said step (1E) further includes step (3B) computing an average interval of the object character in the information document as interval value, and said step (1G) further includes step (3C) determining whether the interval value is larger than the interval threshold.

4. The method for web content filtering according to claim 1, wherein said keyword category and said relevance probability chart can be achieved by the following steps:

(4A) providing testing document category $D=\{d_1, d_2, \dots, d_{|D|}\}$, each testing document d_i to be formed by a word sequence $V=\{w_1, w_2, \dots, w_{|V|}\}$, and each text category c_j including at least one testing document d_i ;

(4B) in the testing document, based on the text category, compute vocabulary probability $P(w_t|c_j)$ of each word w_t in the text category c_j ;

(4C) in all text categories, based on the significance degree of vocabulary probability, choosing vocabulary set of a predetermined numbers as keywords; and

(4D) building relevance probability chart using keywords and corresponding probabilities.

5. The method for web content filtering according to claim 1, wherein said contact node is a gateway system of a local network.

6. The method for web content filtering according to claim 1, wherein said contact node is a gateway system of a personal computer.